Roundtable on Sustainable Palm Oil

New Planting Procedure

Summary Report of Assessments

PT. Nabatindo Karya Utama

Cempaga Hulu District,

Kotawaringin Timur Regency, Central Kalimantan Province

Indonesia

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Summary Report of EIA and HCV Assessments and Social Impact Assessment PT Nabatindo Karya Utama, Kotawaringin Timur Regency, West Kalimantan Province

1. Executive Summary

PT Nabatindo Karya Utama (PT NKU) which is located in Cempaga Hulu District, Kotawaringin Timur Regency, Central Kalimantan Province, is one of the Oil Palm plantations companies that has adopted the sustainable palm oil practices based on the Roundtable on Sustainable Palm Oil (RSPO) New Planting Procedures (NPP) using the Guidance Document approved in September 2009 by the Executive Board and which was enforced on 1 January 2010. As part of a sustainable palm oil management system, PT NKU has conducted the Environment Impact Assessment (EIA/AMDAL), High Conservation Value (HCV) identification and Social Impact Assessment (SIA). The HCV and SIA assessment had been conducted from 7 - 13 April 2013 by the Sonokeling Akreditas Nusantara (SAN) consultants; the key consultants conducting these assessments are approved by the RSPO.

The Consent License based on Permitted Area (or called Location Permit/Ijin Lokasi) No. 803 year 2005 was approved on 15 August 2005 for an area of \pm 11,000 ha (\pm 9.000 ha nucleus and \pm 2.000 ha Plasma).

The Environment Impact Assessment (EIA/AMDAL) was approved by the Regent of Kotawaringin Timur (Surat Kelayakan Lingkungan Number 496 year 2009) on 31 october 2009. On top of fulfilling the regulatory requirements of conducting EIA/AMDAL. The combination of AMDAL together with HCV and SIA provides the geographical information of the area, the biodiversity and natural resources, the required best management practices and therefore provides the management with the platform on which the management plans for new planting wil be based on.

The results of the HCV assessment by independent consultants from Sonokeling Akreditasi Nusantara with team personnels that have been approved by RSPO showed that there is no primary forest in the Permitted Area (Izin Lokasi) of PT NKU. The land cover in PT NKU dominated by Palm Oil (*Elaeis guineensis*) by 37.62%, secondary forest (degraded forest) by 19.52%, shrub by 20.54%, open land by 12.67%, grasslands by 9.54% and others by 0.11%. Based on The Report of Semi Detail Soil Survey Assessment by Research Department of PT BGA, indicated that peatland was not found in the Permitted Area (Izin Lokasi).

The results of the HCV assessment by independent consultants from SAN with team personnels that have been approved by RSPO showed that there is no primary forest in the Permitted Area of PT NKU. The vegetation cover is dominated by the rubber (*Hevea brasiliensis*), agroforestry, shrub and degraded forest. Based on The Report of Semi Detail Soil Survey Assessment by the Research Department of PT BGA, indicated that peatland was found in the Permitted Area (Location Permit/ Izin Lokasi).

The key elements for HCV 1 (1.1, 1.3 and 1,4) , HCV 2 (2.3) are area for habitat which has representative population of natural species are riparian belt and secondary forest. HCV 4 are

related to the potential damage from riparian belt. The results of the Social Impact Assessments (SIA) has shown that the company's development of oil palm plantation and palm oil mill production has significant and positive impacts toward the local livelihood and the society's social sustainability. The findings have defined how the company's business has can influence the key issues in the respective component of the social sustainability of the local community. There are three basic components description for society's social sustainability that influences the planning of the company's future operation.

2. Scope of EIA, SIA and HCV Assessment

2.1. Organizational information / contact person

General Data of the Company

Company Name	: PT Nabatindo Karya Utama
Deed of Establishment	: Nurita Zouharminy, SH
	No : 07 dated on 11 July 2005
Capital Status	: Foreign Investment (Penanaman Modal Asing, PMA)
Taxpayer Notification Number	: 02.459.420.2-712.000
Company Address	: BGA Office, Melawai Street No 10, South Jakarta 12160
Type of Business	: Oil Palm Plantation & Processing
Status of Concession Land	: Permitted Area (Izin Lokasi) Number 803.460.42 dated 15
	August 2005 size ± 11,000 Ha.
	Plantation Business Permit (Izin Usaha Perkebunan)
	No. 525.26/678/XI/EKBANG/2005 dated 28 November 2005,
	size 11,000 Ha.
	Cadasteral measurement Number 34-15.05-2008 dated
	7,325.28 ha (Nucleus plantation)
Contact Person	: Francisca Damanik
Geographical Location	: 112°53'41" – 113°1'49" BT dan 1°47'31" – 1°42'23" LS
	See Picture 1, Picture 2, Picture 3 and Picture 4
Surrounding Entities	:
	North : Bordering the PT Bumi Hutan Lestari (BW plantation
	Group) and production forest.
	South : Bordering the PT Windu Nabatindo Abadi (BGA
	Group) and PT Tunas Agro Subur Kencana.
	West : Bordering the PT Hutan Sawit Lestari
	East : Bordering the PT Bisma Darma Kencana

The scope of the EIA/AMDAL of PT NKU show the local social entities within the Permitted area with area 11,000 ha. The High Conservation Value assessment covers the cadastral measurement Map (7,325.28 ha) and plasma Permitted area in with area 2,000 ha. It is also expanded into villages and other areas which are considered important to the proposed surrounding plantation area.



Figure 1. Location of PT Nabatindo Karya Utama in Indonesia



Figure 2. Location of PT Nabatindo Karya Utama in Kalimantan island

Figure 3. Location of PT Nabatindo Karya Utama in Kotawaringin Timur Regency



2.2. List of legal documents, regulatory permits and property deeds

The permits that have been obtained by the company are inclusive of Consent License (Izin Prinsip), Permitted Area (Ijin Lokasi), Environment Impact Assessment (AMDAL) and Environmental Permit (Izin Kelayakan Lingkungan and Izin Lingkungan) and the Plantation Business Permit (Izin Usaha Perkebunan). The followings are the list of the licenses and recommendations :

No	Licenses and recommendations	Issued by	Number	Note
1.	Deed of Establishment	Nurita Zouharminy, SH	07	Registered 11-07-2005
2.	Tax Registration Code Number	Directorate General of Taxes, Ministry of Finance	02.459.420.2-712.000	
3.	Principle approval	Regent of Kotawaringin Timur (Bupati Kotawaringin Timur)	525.26/514/VII/EKBANG/2005	Registered 21-07-2005
4.	Permitted Area (Izin Lokasi)	Regent of Kotawaringin Timur (Bupati Kotawaringin Timur)	No.803.460.42	Registered 15-08-2005
5.	Plantation Business Permit (Izin Usaha Perkebunan)	Regent of Kotawaringin Timur (Bupati Kotawaringin Timur)	No. 525.26/678/XI/EKBANG/2005	Registered 28-11-2005
6.	Environmental Permit (Izin Kelayakan Lingkungan)	Regent of Kotawaringin timur (Bupati Kotawaringin Timur)	No. 496 tahun 2009 size ± 11,000 Ha	Registered 31-10-2009

Table 1. Types of permits and license	s recomendation PT Nabatindo Karya Utama
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2.3. Area and time-plan for new plantings

The proposed area for new planting area by PT NKU is in the location of the Plantation Business Permit (Izin Usaha Perkebunan, IUP) which the owners of the land have received the free, prior and informed consent (FPIC). The land development and planting of oil palm will begin in 2013 following the procedures of the RSPO New Planting Procedures (NPP).

Table 2. Estimation of new plantings area and time-plan for new planting PT Nabatindo Karya Utama

Year Planting (ha)						
2014 2015 2016 total						
465	530	2320	3315			

3. Assessment Process and Procedures

3.1 Environment Impact Assessment

The Environment Impact Assessment of PT NKU was carried out by CV. Environment Technoligy, with address at Jl. Akasia VI No. 04 Palangkaraya, Central Kalimantan (Telephone No: 0536 – 3324600)

The key consultants conducting these assessments are accredited with the Competency certificate which was approved by The National Association Of Professional Consultants Of Indonesia:

Team composition	Name	Specification	Competence certificate		
Team Leader	Ir. Muhammad Wahyudin, M.Si.	Environment Management	Team Leader (AMDAL A, B, C)		
Sub Team Geo - Physic – Chemist	Rendro Rismae Riady, S.T	Environment Technic	Member		
Sub Team Biologi Anwar Fauzi S.Pi.		Water Biota	Member		
	Yulian Mara Alkusuma, S. Hut		Member		
Sub Team Leader of social culture- community health	Saijo. SP, MP	Economic social	Member		

Table 3. Person and Expertise EIA Team Assessor in PT Nabatindo Karya Utama

Assessment Methods (data sources, collection, dates, program, and visited places)

The data collection process was strongly associated with the type of data that collected. In generally, studies will be conducted based on primary data and secondary data. Primary data obtained through observation, measurement and field interviews, and secondary data obtained from the literature collected, either from the company, or directly from related institutions in the study of this areal. The methods that were used to collect the data adjusted with components that can be studied. The used data must be accurate and reliable so that it could be use to analise, measure and observe the environmental components which was predicted would be affected and components of action plan which was predicted to give significant impacts to the surrounding environment. The data were collected was as follow :

- Physic Chemist Components (Climate, Air Quality and Hydrology, and Soil).
- Biological Components (Vegetation, Animals, and Water Biota).
- Socio-Economic Culture Components (Demography/ Population, Social, Economic, Social and Cultural).
- Environmental Health and Public Health Components (Environmental sanitation, public health level, level of public health services).

Methods of Significant Impact Estimation

Determination of the significant impact to the environment caused by the development activities of the plantation and the palm oil mill is only intended as an attempt to estimate the large and important environmental quality changes that are caused by the plantation development activities and the palm oil mills of PT NKU in Cempaga Hulu district, Kotawaringin Timur Regency. Method of significant impact estimation is by differentiating the magnitude impact and significant impacts.

A. Estimation on the Magnitude of Impact

Magnitude Impact are measured from the environmental quality changes. On estimates of changes in environmental quality are used formal and informal methods.

1. Formal Methods

Formal methods are used to estimate the impact of parameters which the system characteristics can be identified or estimated by using the approach of environmental threshold at national and regional levels.

2. Non Formal Methods

Non-formal method is a method that is based on the professional judgment of experts, logical frame analysis and analogy. This method is use to estimate the environmental parameters which characteristics system finds difficult to identify or estimated by modeling approach such as models, socio-cultural systems.

To simplify estimates of magnitude Impact from changes in quality of the matrix filling, then used the approach of environmental quality assessment scale. Level of environmental quality assessment scale using a scale of 1-5. Based on these figures assessment, environmental quality differentiated as: excellent (5), good (4), fairly good (3), bad (2), and very poor (1).

B. Determination of Important Impact Characteristics

Assessment of the important impact characteristics were in accordance to BAPEDAL decision Number: KEP-056 of 1994 on Guidelines Regarding Significant Impacts size. Meanwhile, in relation to the impact evaluation conducted by Important Impact scaling into two categories: important and less important. Characteristics Impact divided into two groups, negative impacts and positive impacts. It will be regarded as negative if the changes/ impact estimated is get adverse towards the environmental, and it is positive if the changes/ impact estimated giving beneficial to the environment.

C. Methods of Important Impact Evaluation

The Important Impact evaluation explore "holistic causative" against expected environmental components that is affected. For this purpose the supporting tools used is such as interactions matrix. Interactions matrix between activity components and environmental component contain magnitude of Impact and Importance of Impact. This Important Impact evaluation will conduct careful and thorough study to the primary impact (positive / negative) and secondary impacts (positive / negative), and also other derivative impacts on the environment component and activities component.

The study of the important source impact and hypothetical impact can identify the key issues that needs to be managed. Results of the Important impact evaluation are also expected to assist the decision making process in the selection of a viable alternative plan that takes into consideration of the environmental aspects of the proposed area.

3.2 SIA (Social Impact Assessment)

The Social Impact Assessment of PT NKU was carried out by SAN which is located at: Komplek Sari Inten Number. 44 RT 02/RW 09, Ciomas Rahayu, Ciomas, Bogor - West Java, 16610 Telephone. 0251-7521685.

The key consultants conducting these assessments have been accredited and approved by the RSPO. The team members are:

No. Expert Name		Expertise/Position
1	Burhanuddin Gala, MA	Anthropologists
2	Janri Bungatali	Legal Labour and sociologist

Table 4. Person and Expertise SIA Team Assessor in PT Nabatindo Karya Utama

Assessment Methods (data sources, collection, dates, program, and visited places)

Social Impact Assessment (SIA) on the ground was carried out as bellows :

Method of Executing the Study

The approach framework for SIA was by learning the present existing condition in PT NKU, particularly the socio-economic condition, socio-economic impact of the company toward the surrounding of the community, and the community's perception. Based on the existing condition, preparation and compilation were made with SIA document and social management plan which contain activities that should be carried out in order to create ideal condition (desirable condition).

Multidimensional characteristic of development interventions is urgently needed to identify the potential economic and social impact. The impact of population growth and globalization may have adverse social effects in the form of increased poverty and declining living standards around . SIA can be defined by efforts to assess or estimate , the social consequences of the presence of development activities . Social Impact Assessment is a process that provides a framework to prioritize , collect , analyze , and incorporate the information into the design and make recommendations . SIA study to ensure that recommendations being given are : (i) information that emphasizes social issues that are relevant , and (ii) incorporate strategies that involve the participation of various stakeholders . Social Assessment (SA) , on the other hand , is a process that provides a framework for prioritizing , gathering, analyzing and incorporating social information and participation in the design and implementation of activities (Rietbergen - McCracken and Narayan 1998) .

The method used in the study of social impact assessment (SIA) is the method qualitative collection techniques and data gathering refers to the direction in rapid rural assessment (RRA), which combines in-depth interviews, focus group discussions (FGD) and observation. To enrich the data, also conducted a secondary data collection, combined with the use of simple quantitative methods to collect data through questionnaires. To ensure the validity of the information, then the principle of triangulation (data source compound) as well as the saturation of data (no more changes in the data collected) used in this study (Denzin and Lincoln, 2000).

At analytical level, thematic analysis is used in accordance with what is suggested by Miles and Huberman (1994). Basic theme that being used based on the issues found in preliminary studies and in the field observation. The more informant /stakeholders who confirm an issue, then the theme importance will be increasing. In addition to the thematic, descriptive analysis was also carried out to strengthen the analysis argument.

The findings obtained from the methods above were analyzed. The baseline of the analysis was based on RSPO criteria which is relevant to sustainable social aspects. The recommendations also covered other issues which were not required in the RSPO criteria, in the form of ideas or aspirations as the result of the field analysis.

3.3 HCV Assessment

The key consultants conducting these assessments have been accredited and approved by RSPO. The team members are:

No.	Expert Name	Expertise/Position	Status
1	Ir. Kresno Dwi Santosa, M.Si	Team Leader Socio Economic	Approved by RSPO
		and Culture Expert	
2	Dr. Ir. Harnios Arief, M.Sc.F	Biodiversity (Fauna) Expert	Approved by RSPO
3	Dr. Ir. Rachmad Hermawan, M.Sc.F	Environmental Services Expert	Approved by RSPO
4	Kasuma Wijaya, S.Hut, M.Si	GIS Expert	
5	Mulyadi Kamad, S.Hut	Socio Economic and Culture	
		Expert	
6	Domi Suryadi	Biodiversity (Flora) Assistant	
		Expert	
7	Ainurrahman, Amd	Biodiversity (Flora) Assistant	
		Expert	
8	A. Rahman Hakim, S.Hut	Environmental Services	
		Assistant Expert	
9	Hendi Kusnadi	GIS Assistant Expert	

Table 5. The name of team members Assessor and its approval status

Assessment Methods (Data sources, data collection, dates, program, and visited places)

Implementation Method

Date and Location

Identification and analysis of the HCV was carried out in the area of PT. NKU at Cempaga Hulu district, Kotawaringin Regency and Central Kalimantan Province. The identification and analysis was held on 7 April until 13 April 2013.

Materials and Equipments

Materials used in the identification and analysis include are : AMDAL document, digital elevation model map, landsat image map, land system map/RePProt, indonesia topographical map (Rupa Bumi Indonesia map), forest land use map (TGHK), hydrology map, unit management administration map, IUCN red list of threatened species, The CITES Appendices, Government Regulation of Indoneisa Number 7 1999 (PP 7 1999) and materials that used in field survey are Guidance Book on Bird Life in Java, Bali, Sumatera and Kalimantan, a Field Guide to Mammals of Borneo, Payne et al., 1985, published by WWF Malaysia, Kuala Lumpur, Questioners and tally sheet.

Tools used are GPS, compass, clinometers, camera, and binoculars.

Approach

There are 2 (two) factors that determine the success in maintaining and increasing HCV in the area of PT. NKU, namely (1) the availabilities of identification and analysis of documents on the existence of HCV since this will be use as reference in preparing management and monitoring plans, and (2) management documents and monitoring plans for the identified high conservation value area (HCVA) which will be used as a reference in the management and monitoring of HCVA.

The success in the implementation of identification and analysis activities of HCV existing in the area of PT. NKU is determined by 2 (two) factors, namely: (1) the availabilities of adequate data and updated secondary and primary data, and (2) proper and systematic documentation of activities in stages. The availabilities of updated and reasonably sufficient data and information are greatly dependent on the activities of field surveys which were carried out systematically, adequately and well planned. In order to conduct a field survey plan as expected, the reviews on the available documents/reports and maps and initial identification of HCV had to be done. Precise and systematic stages of activities to enhance the success of the identification and analysis of the existing HCV included field surveys, data processing, data analysis and synthesis, identification of HCV, analysis of HCV existence, and mapping.



Figure 4. Approach in The Identification and Analysis of HCVs

CV Identifying Methods

The assessment covers the cadasteral Map for an area of \pm 7.325.28 and permited area plasma for an area 2,000 ha. which has been approved as the company's project area. Assessments also expanded into villages and other areas which was to be considered on its of relevance of importance to the proposed plantation area. The field survey was conducted on 7 April – 13 April 2013.

In the process, each observation team was accompanied by the field staff from the company and local representatives who are familiar with the site. Besides field activities, the team also collected information from the local people through individualistic interviews, Focus Group Discussion (FGD), as well as public consultations (the list of stakeholders in the participative process is included in **Appendix 1**). At the same time, confirmation and cross checking of the findings were carried out with the local people using the technique of purposive sampling – which included the socialites and the related interest parties.

The understanding and scope of HCV for the oil palm plantation sector refers to the HCVF definitions which apply to the forestry sector. The Identification of High Conservation Value in Indonesia was developed by the *Konsorsium Revisi HCV Toolkit Indonesia* (2008) - the toolkit for the revision HCV consortium. Other references used were IUCN, CITES, and other guidelines as well as the relevant laws and regulation of Indonesia (See **Appendix 2**).

4. Summary of Assessment Findings

4.1. Environment Impact Assessment

The development of oil palm plantation and palm oil mill of PT. NKU in Cempaga Hulu, kotawaringin Timur Regency raises awareness of the environmental impact on the physicalchemical, biological, and social, economic, cultural and local public health, both positive and negative impacts. In the implementation of plantations development and palm oil mill of PT. NKU, one aspect of which is the main consideration is the preservation of the environment, to ensure sustainable development.

The EIA study of the plantations activity and palm oil mill of is a single EIA activities / projects. The scoping study of the area boundary for Environmental Impact Assessment (EIA) of Oil Palm Plantation activities consider four (4) factors, namely: limit project / activity, ecological boundaries, social boundaries and administrative boundaries.

Plantation activities and palm oil mill was predicted to impact the environment, so it needs to be explored in depth including the four phases of activities: Pre-Construction Phase, Construction Phase, Operational Phase and Post-Operational Phase.

Magnitude and importance of the impact that needed attention in the study of EIA Plantation and Palm Oil Mill of PT NKU at pre-construction phase, is a change in attitudes and perceptions and containing social unrest. At this phase the identified activities to be explored is the socialization and boundary demarcation and land acquisition.

Magnitude and importance of the impact that needed attention in the construction phase is a decrease in air quality and noise levels, decrease in the quality of surface water, land and forest fire potential, decreased in the diversity of flora and fauna species diversity decreased, increase in jobs and business opportunities, increase in incomes, changes in attitudes and perceptions as well as the decrease in public health. At this stage of identified activities could be the mobilization of heavy equipment, manpower recruitment, land clearing, construction of facilities and infrastructure, seeding and planting, maintenance of immature plants, factory construction and waste water treatment plant, construction of water channels and roads.

Magnitude and importance of the impact that needed attention at the operation phase is the reduction of air quality and increased in noise level, increased job and business opportunities, increase incomes, changing attitudes and perceptions, decreased levels of public health in the study area. At this stage the identified activities could be nursery, FFB harvesting and transport, mobilization of heavy equipment and maintenance of oil palm trees.

Magnitude and importance of the impacts that needed attention at the post operation phase is the reduction of air quality and increased in noise level, decrease of local income, changing attitudes and perceptions, and community unrest. At this phase the identified activities could be labor dismissals, demobilization of heavy equipment, reforestation and revegetation, and also land handover to government and community.

Changes in some aspects of the environment (abiotic, biotic, social, economic, cultural and public health) in District Cempaga Hulu, Kotawaringin Regency, due to these activities require further tightening in the utilization of available natural resources and optimizing the management and monitoring efforts which needed to be integrated into all components of the integrated business.

Magnitude and importance of the impacts that will be managed and monitored in the Environmental Management Plan and Environmental Monitoring Plan based on the results of the impact evaluation are: 1) Physical-chemical environment components include air quality, surface water quality, and forest fires potential; 2) Social culture and public health components including : social unrest, job and business opportunities, perceptions, local revenue and public health level.

Environmental management of the environmental components that are experiencing fundamental changes, both positive and negative as a effect of the Oil Palm Development plan of PT NKU to be carried out in terms of the three approaches, are: technological, socio-economic-cultural and institutional.

The implementation of environmental monitoring carried out by PT NKU. The environmental monitoring reports will be submitted annually to the technical adviser of the government agencies

4.2. Social Impact Assessment

Demography and Village Density around PT NKU

The population of Cempaga Hulu district based on the Kotawaringin Regency Figures 2010 is 23,905 people. With an area of 1,183 km², the population density in the district Cempaga hulu is 20.20 people/km². Popupation in Tumbang Koling village is 1,734 people, with an area 44.50 km² the population density is 39 people/km².

The number of people in a particular region or community will raise the cost of environmental health, which will implicate on the quality of health of each individual in the community.

CONCLUSIONS AND RECOMMENDATIONS

issues which occurred in PT NKU classified into two areas:

External Issues

The company has not provided a contribution to the socio-economic conditions of local communities . Different livelihood with farming causing local employment not continuous . In general, local people prefer to work mining gold (while occasionally tapping rubber) of the employee must be bound as an oil palm plantation.

Besides the lack of social management program (CSR) which resulted in the emergence of sustained negative perceptions of local residents to the presence of oil companies in the area around their village that is considered less concerned. This is a bad precedent for the oil companies concerned where this condition is always used as the main reason for requesting assistance to existing companies in the area around their village.

External problem is the demand for companies to establish smallholdings through a partnership. Through the management of PT. NKU is old, it is already been negotiated yet to be acquired by the BGA Group has not reached an agreement. (When the SIA study done efforts by the management of PT. NKU new to do a new agreement on the partnership). Disappointment residents are getting piled by various promises of oil palm plantation company that to this day still carry out its activities. For them the influx of new wind BGA Group is again reviving hopes that the discourse smallholdings can be realized as soon as possible.

Significant issues that must also be considered by the management of PT . NKU is planning a new CSR programs are sustainable . During this habit only company providing direct assistance when citizens apply . It is wise for the new management of PT . NKU took the initiative to implement various development programs which of course it can be synergized with CSR programs of other palm oil companies in the region tumbles Koling village .

Internal Issues

Internal conditions is also important to be considered by the company. Often the oil palm plantation company more responsive to external address issues related to CSR programs primarily due solely intended for social security. On the other hand the internal conditions forgotten in terms of employees is spearheading a significant effort to determine the sustainability of oil palm plantations.

- Similarly, faced by the new management of PT. NKU, where employees are still many who have not felt an increase in welfare since joining in oil plantation PT. NKU. For this new management is a challenge and a new breakthrough moment for the conduct of activities so that the ideal goal can be achieved namely palm plantations welfare of employees and the surrounding community.
- The thing that is most expected by the employees of the new management is the lack of transparency in awarding premiums that have been overlooked by the management of PT. NKU old. Not to the creation of good industrial relations between the employees and management of the company needs to be a concern for the management of PT. NKU new.
 As we know that most of the employees of PT. NKU came from outside the main island of Java and NTT. Their arrival is indeed to work and trying to change the fate of the hope of improving the standard of living where it is difficult to realize in their hometown. High work ethic are

appropriately considered by companies that have become liabilities.

CONCLUSIONS AND RECOMMENDATIONS

In general, PT NKU oil palm plantation development plan in Tumbang Koling in Cempaga Hulu district in Kotawaringin Timur regency has some social issues in the community which will be the basis of social sustainability for the people around the plantation. The conclusions of this social impact assessment are as follows:

NO.	SOURCE OF IMPACT.	IMPACT OF MANAGEMENT			
	INTERNAL IMPACT				
1.	Infrastructure Construction	 Coordination with other companies in CSR programs Conduct a SWOT analysis of the new program or who have implemented Conducting appropriate program priorities 			

NO.	SOURCE OF IMPACT.	IMPACT OF MANAGEMENT
		 To evaluate the success rate of the program
2.	The Partnership	 Resolving GRTT the principle of win-win solution. Establish a cooperative that represents all the aspirations of the local farmer res Distribution smallholding fair and transparent.
3.	Employment Opportunities	 Conduct training according to their talents and interests of local residents. Implement empowerment programs of the woman
4.	Business Opportunity	 Implement programs to empower the household economy. Mentor (entrepreneurship) Conducting a SWOT evaluation of the program has been running.
5.	Increased Income	 Conducting assistance for business development of domestic economy Training Cooperative.
6.	Environment and Public Health	 Identify cultural elements associated with patterns of health care Exploring knowledge of traditional medicine Identify patterns of resource utilization medication (curative, preventive, and rehabilitative)
	EXTERNAL IMPACT	
1.	Industrial relationsl	 Rewarding employees. Identify facilities and infrastructure that support the effectiveness of the work Evaluating the performance of the employee's.
2.	Carier path	 Promotion and recommendations. Development through education. Implement expressly punishment and reward.
3.	Salary and allowance benefits	Establish cooperative employees.Adjustment of salaries and allowances.
4.	facility employees	 Health service facilities (polyclinics) Facilities education (early childhood, kindergarten, and elementary) Economic facilities (Cooperative Employee) Entertainment facilities (arts and sports)

4.3. HCV Assessments

Physical

Climatic conditions in the Simpang hulu and Simpang Dua are similar to other tropical areas where condition are classified into rainy and dry seasons. Generally, the rainy season occurs between October to March, while the dry season occurs between April and September. The duration of both of this season fluctuate, at times with longer dry season or a longer rainy season.

The physiography shows a land surface that can be a factor in the process of soil formation, giving effect to the development of land. Based on the slope map, most of the land are flat (0-8%) an area 52.26% of total the area, undulating (8-15%) cover an area of 41.97% of the total area and moderate step (15-25%) an area of 5.77% of the total area.

The Plantation areas and the Processing Plant of PT NKU are located in an area with a height of 22-85 m above sea level (asl). The important factors in soil formation are the parent material because it influences the physical and chemical structures of the soil. Almost all of the entire studied area is dominated by 3 land class system: bawin cover an area of 47.22% of total area, Honja covers an area of 15.17% of total area and Pakau covers an area of 37.62% of total area.

The working area of PT NKU includes Mentaya River watershed. The rivers that crossed the area are as many as 8 rivers and creeks. Drainage patterns in the area of PT NKU is dominated by one river, the Mirah. Use of rivers by the community is not still intensive for use.

Biological

Flora

There are 60 species found in the area of PT. NKU, Based on the plant class, plant species found in the working area of PT. NKU can be categorized based on the habitat, the composition of vegetation in the area can be differentiated into the 7 (seven) kinds of shrubs, palms, epiphytes, shrubs, lianas, herbs and trees.

Only one of the flora named above are in the "protected" species under PP. 7 / 1999 is *Nepenthes mirabilis*. The assessment identified 4 plant species that are included in the List of the IUCN Red List (3 species is EN / Endangered and 1 species VU / Vulnerable) and 1 species that are included in CITES Appendixs with the details as presented in **Table Table 8**.

	Nome Lettel	Name Latin			Status		
No	Nama Lokal	Nama Latin	Famili	Habitus	IUCN	CITES	PP 7
1	Akar kekait	Uncaria sclerophylla	Rubiaceae	Liana	-	-	I
2	Akar Simpur	Tetracera fagifolia	Dilleniaceae	Liana	-	-	-
3	Alang-alang	Imperata cylindrica	Poaceae	Herba	-	-	-
4	Alau	Baeckea frutescens	Myrtaceae	Pohon	-	-	-
5	Anggrek pohon		Orchidaceae	Semak	-	-	-
6	Asam	Garcinia rostrata	Clusiaceae	Pohon	-	-	-
7	Bambu	Bambusa sp	Роасеае	Semak	-	-	-
8	Bantengan	Vitis thyrisflora	Vitaceae	Liana	-	-	-
9	Bejangkang	Xylopia fusca	Annonaceae	Pohon	-	-	-
10	Benuas	Shorea laevifolia	Dipterocarpaceae	Pohon	-	-	-
11	Bintangur	Callophyllum retusum	Clusiaceae	Pohon	-	-	I
12	Bruta	Gleichenia linearis	leicheniaceae	Semak	-	-	-
13	Empaning	Quercus bennettii	Fagaceae	Pohon	-	-	-
14	Geronggang	Cratoxylon arborescens	Clusiaceae	Pohon	-	-	I
15	Jabung	Erigeron linifolius	Asteraceae	Herba	-	-	-
16	Jambu-jambu	Eugenia cuprea	Myrtaceae	Pohon	-	-	-
17	Jangkang	Xylopia malayana	Annonaceae	Pohon	-	-	-
18	Jelutung	Dyera costulata	Apocynaceae	Pohon	-	-	-
19	Karamunting	Rhodomyrtus tomentosa	Myrtaceae	Perdu	-	-	-
20	Karet	Hevea brasieliensis	Euphorbiaceae	Pohon	-	-	-
21	Kayu Batu	Homalium foetidum	Dipterocarpaceae	Pohon	-	-	-
22	Kayu Malam- malam	Diospyros bantamensis	Ebenaceae	Pohon	-	-	-
23	Kedawung	Parkia javanica	Fabaceae	Pohon	-	-	-
24	Kelakai	Stenochlaena palustris	Pteridaceae	Semak	-	-	-
25	Kembayau	Santiria laevigata	Burseraceae	Pohon	-	-	-
26	Kempas	Koompassia malaccensis	Fabaceae	Pohon	-	-	-
27	Keranji	Dialium indum	Caesalpinaceae	Pohon	-	-	-
28	Keruing	Dipterocarpus sp	Dipterocarpaceae	Pohon	-	-	-
29	Ketiau	Ganua motleyana	Sapotaceae	Pohon	-	-	-

Table 8. List of Plant Species Found in the Area of PT. NKU Based on Their Status

					Status		
No	Nama Lokal	Nama Latin	Famili	Habitus		CITES	PP 7
30	Mahabawak	Shorea smithiana	Dipterocarpaceae	Pohon	EN	-	-
31	Mahang	Macaranga pruinosa	Euphorbiaceae	Pohon	-	-	-
32	Medang keladi	Alseodaphne falcata	Lauraceae	Pohon	-	-	I
33	Medang Perawas	Litsea tuberculata	Lauraceae	Pohon	-	-	I
34	Mentibu	Dacrylocladus stenostachys	Crypteroniaceae	Pohon	-	-	-
35	Meranti batu	Shorea dasyphylla	Dipterocarpaceae	Pohon	EN		
36	Meranti bunga	Shorea sp	Dipterocarpaceae	Pohon	EN		
37	Mikania	Mikania michrantha	Asteraceae	Liana	-	-	-
38	Nangka	Artocarpus heterophyllus	Moraceae	Pohon	-	-	I
39	Pakis Kawat	Dryopteris linearis	Polypodiaceae	Herba	-	-	-
40	Paku rawa	Nephropelis radicans	Oleandraceae	Herba	-	-	-
41	Pantung	Dyera lowii	Apocynaceae	Pohon	-	-	-
42	Pasak bumi	Eurycoma longifolia	Simarubaceae	Perdu	-	-	-
43	Pelawan	Tristania obovata	Myrtaceae	Pohon	-	-	-
44	Pelawan Putih	Tristania maingayi	Myrtaceae	Pohon	-	-	-
45	Perdang	Cyperus pilosus	Liliopsida	Herba	-	-	-
46	Perepat	Combretocarpus rotundus	Anisophylleaceae	Pohon	-	-	-
47	Pisang	Musa paradisaca	Musaceae	Perdu	-	-	-
48	Putri malu	Mimosa pudica	Fabaceae	Herba	-	-	-
49	Ramin	Gonystylus bancanus	Thymelaeaceae	Pohon	VU	APP II	
50	Resak	Vatica rassak	Dipterocarpaceae	Pohon	-	-	-
51	Rotan	Calamus caesius	Arecaceae	Liana	-	-	-
52	Sampinur	Dacrydium elatum	Podocarpaceae	Pohon	-	-	-
53	Sirih Hutan	Piper miniatum	Piperaceae	Epifit	-	-	-
54	Temahas	Memecylon excelsum	Melastomataceae	Pohon	-	-	-
55	Terap	Artocarpus elasticus	Moraceae	Pohon	-	-	-
56	Terentang	Campnosperma macrophyllum	Anacardiaceae	Pohon	-	-	I
57	Ubah	Eugenia spicata	Myrtaceae	Pohon	-	-	-
58	Ubar	Garcinia balica	Clusiaceae	Pohon	-	-	-
59	Ubar Putih	Eugenia eucoxylum	Myrtaceae	Pohon	-	-	I
60	Kantung Semar	Nepenthes mirabilis	Nepentheceae	Liana			V

Wildlife

There were 94 species of wildlife found in the area of PT NKU and grouped in 39 families that consist of Mammals 10 species (9 families), Aves 79 species (25 families) and Reptile 5 species (5 families).

There are 27 species that are protected by Government Rule No 7/1999. Based on CITES, there are 18 species i.e. 4 species of Appendix I, 14 species of Appendix II.

Whereas, 94 species are included in IUCN RED LIST that consist of NT/Near Threatened 3 species, VU/Vulnerable 4 species and EN/Endangered 3 species (see**Table 9**).

	Na	ama Jenis		Conservation status			
No	Lokal	Ilmiah	Famili	IUCN	CITES	PP NO 7	
	MAMMALS						
1	Kijang	Muntiacus muntjak	Cervidae			V	
2	Beruang madu	Helarctos malayanus	Ursidae	VU	App I	V	
3	Pelanduk kancil	Tragulus javanicus	Tragulidae			V	
4	Monyet Ekor panjang	Macaca fascicularis	Cercopithecidae		App II		
5	Orang utan	Pongo pygmaeus	Pongidae	EN	App I	V	
6	Landak raya	Hystrix brachyura	Hystricidae			V	
7	Kucing kuwuk	Felis bengalensis	Felidae			V	
8	Trenggiling, Peusing	Manis javanica	Manidae	EN	App II	V	
9	Berang-berang	Lutra perspicillata	Mustelidae		App II		
10	Rusa Timor	Cervus timorensis	Cervidae	VU		V	
	REPTILE						
1	Kobra	Naja sumatrana	Elapidae		App I	V	
2	Senyulong Tomistoma schlegelii		Crocodylidae	EN	App I	V	
3	Biawak	Varanus salvator	Varanidae		App II		
4	Ular sanca	Pyhton reticulatus	Pythonidae		App II		
5	King kobra	Ophiophagus hannah	Elapidae	VU	App II		
	AVES						
1	Elang hitam	Ictinaetus malayensis	Accipitridae		App II	V	
2	Alap-alap erasia	Falco tinnuculus	Falconidae		App II	V	
3	Alap-alap capung	Microhierax fringillarius	Falconidae		App II	V	
4	Punai lengguak	Treron curvirostra	Columbidae		T T		
5	Punai besar	Treron capellei	Columbidae				
6	Tekukur biasa	Streptopelia chinensis	Columbidae				
7	Punai bakau			NT			
8	Punai Gading	Treron vernans	Columbidae Columbidae				
9	Delimukan zamrud	Chalophaps indica	Columbidae				
10	Burung-madu belukar	Anthreptes singalensis	Nectariniidae			-	
10	Bubut besar	Centropus sinensis	Cuculidae			+	
12	Burung madu	Anthreptes malacensis	Nectarinidae				
13	Bubut alang-alang	Centropus bengalensis	Cuculidae				
13	Elarang brontok	Spizetus cirrhatus	Accipitridae				
14	Wiwik lurik/ukit	Cacomantis sonneratii	Cuculidae				
15	Walet sarang putih	Collocalia fuciphaga	Apodidae				
10	Walet sarang hitam	Collocalia maxima	Apodidae			-	
17		Collocalia esculenta				-	
18	Walet sapi Kepinis jarum kecil	Rhapidura leucopygialis	Apodidae Apodidae	-			
20	Raja udang meninting	Alcedo meninting	Alcedinidae	-		v	
	, ,	Alcedo euryzona	Alcedinidae			v v	
21	Raja udang kalung biru	,					
22 23	Pekaka emas/bekaka Cekakak batu	Pelargopsis capensis Lacedo pulchella	Alcedinidae Alcedinidae			√ √	
24	Cekakak sungai	Todirhamphus chloris	Alcedinidae	NT	Annu	V	
25	Enggang kihingan	Annorhinus galeritus Anthracoceros malayanus	Bucerotidae	NT	App II	۷ ۷	
26 27	Kangkareng hitam	,	Bucerotidae Caprimulgidae	NT	App II	V	
	Cabak maling	Caprimulgus macrurus		-	1 nn 11		
28	Elang tikus	Elanus caeruleus	Accipitridae		App II	V	
29	Kacer	Copsychus saularis	Muscicapidae	+		┨────	
30	Kareo padi	Amaurornis phoenicurus	Rallidae			┨────	
31	Kecici	Sitta frontalis	Sittidae	+		┨────	
32	Perenjak	Prinia familiaris	Sylviidae			 	
33	Pipit	Lonchura malacca	Estrilidae			<u> </u>	
34	Puyuh batu	Coturnix chinensis	Phasianidae				
36	Cipoh kacat	Aeghitinia tipia	Chloropseidae	-		<u> </u>	
37	Cipoh jantung	Aegithina viridissima	Chloropseidae	-		<u> </u>	
38	Cipoh kacat	Aeghitinia tipia	Chloropseidae			<u> </u>	
39	Cica daun kecil	Chloropsis cyanopogon	Chloropseidae			<u> </u>	
40	Cica daun besar	Chloropsis sonnerati	Chloropseidae			<u> </u>	
41	Cica daun sayap biru	Chloropsis cochincinensis	Chloropseidae				
42	Cucak rawa	Pycnonotus zeylanicus	Pycnonotidae	VU	App II		

Table 9. Wildlife Species in the Area of PT. Nabatindo Karya Utama Based on Their Status

	Na	ma Jenis		Cons	servation s	tatus
No	Lokal	Ilmiah	Famili	IUCN	CITES	PP NO 7
43	Cucak kuricang	Pycnonotus atriceps	Pycnonotidae			
44	Cucak rumbai tungging	Pycnonotus eutilotus	Pycnonotidae			
45	Merbah gunung	Pycnonotus flavescens	Pycnonotidae			
46	Gagak kampung	Corvus macrorhynchos	Corvidae			
47	Cica kopi melayu	Pomatorhinus montanus	Timaliidae			
48	Tepus kepala kelabu	Stachyris poliocephala	Timaliidae			
49	Kucica kampung	Copsychus saularis	Turdidae			
50	Kucica hutan/Tinjau	Copsychus malabaricus	Turdidae			
51	Kucica ekor kuning	Trihixos pyrrhopygus	Turdidae			
52	Perenjak rawa	Prinia flaviventris	Silviidae			
53	Sikatan hijau laut	Eumyas thalassina	Muscicapidae			
54	Kipasan belang	Rhipidura javanica	Muscicapidae			
55	Kehicap ranting	Hypothymis azurea	Muscicapidae			
56	Seriwang Asia	Tersiphone paradisi	Muscicapidae			
57	Sikatan bakau	Cyornis rufigastra	Muscicapidae			
58	Sikatan kerdil	Muscicapella hodgsoni	Muscicapidae			
59	Murai-batu tarung	Monticola solitarius	Muscicapidae			
60	Sikatan kepala-abu	Culicicapa ceylonensis	Muscicapidae			
61	Kerak kerbau	Acridotheres javanicus	Sturnidae			
62	Tiong	Eurystomus orientalis	Coraciidae			
63	Tiong emas/tiung	Gracula religios	Coraciidae		App II	
64	Burung madu polos	Anthreptes simplex	Nectariniidae			V
65	Burung madu rimba	Hypogramma hypogrammicum	Nectariniidae			v
66	Pijantung kecil	Arachnothera longirostra	Nectariniidae			V
67	Burung-madu kelapa	Anthreptes malacensis	Nectariniidae			
68	Burung-madu	Aethopyga siparaja	Nectariniidae			
69	Pijantung kampung	Arachnothera crrasirostris	Nectariniidae			V
70	Pijantung besar	Archnothera robusta	Nectariniidae			V
71	Pipit benggala	Amandava amandava	Ploiceidae			
72	Bondol hijau binglis	Erythrura prasina	Ploiceidae			1
73	Bondol hijau dada merah	Erythrura hyperythra	Ploiceidae			1
74	Bondol perut putih	Lonchura leucogastra	Ploiceidae			1
75	Bondol kalimantan	Lonchura fuscans	Ploiceidae			1
76	Bondol rawa	Lonchura malacca	Ploiceidae			1
77	Burung gereja	Passer montanus	Ploiceidae			1
78	Kadalan beruang	Phaenicophaeus diardi	Cuculidae			1
79	Bangau tongtong	Leptoptilos javanicus	Ciconiidae			V

Environmental Services Aspect

Region or ecosystem that is important as a provider of Water and Flood Control for Downstream Communities.

Region or ecosystem that is found in the area of PT NKU is mainly lowland forest ecosystems and a little peat swamp forests; while the Cloud forest ecosystems, forest ridge and karst ecosystems are not found in the area.

Important Ecosystem and Its Relationship with the various Classes of Land Based on RePPProT

Ecosystems found in the area of PT. NKU consists of two (2) types, namely lowland forest ecosystems and peat ecosystem. Land classes found in the region consists of five (3) types, namely HJA (Honja), BWN (Bawin) and PKU (Pakau). Based RePPProT and HCV Toolkit (June 2008), land classes HJA, PKU and BWN including the threatened land systems and / or rare. However, because the condition of ecosystems has been much damaged (degraded) due to forest exploitation activities (logging) before any fields/cultivation, and forest encroachment activities (illegal logging), then some of the functions and benefits of ecosystems have degraded.

With regard to technical aspects of the management of oil palm plantations, the presence of lowland forest can be utilized as a land of oil palm cultivation. Similarly shallow peat lands, also technically can be used for oil palm cultivation.

But ecologically, particularly in peat ecosystems (with land system under GBT) will need to consider the legal aspects (relating to Regulation of the Minister of Agriculture No.14 years of 2009 and Presidential Decree No.32 of 1990), as well as other aspects (Prinsip 7 RSPO).

Regions that serves as a natural insulation to prevent the spread of forest fires and land

Regions that serves as a natural insulation to prevent the spread of forest fires and natural forest land is still in good condition, including swamp forests in the hydrological system (the peat swamp forest is still intact), swamp forest, inundation areas, other wetland and green lanes (green belt) with various types of fire-resistant plants. In the area of PT. NKU not still area that can serve as a fire breaker.

Economy, Socio Culture of Local Community

Administratively, oil palm plantation of PT NKU is located in Cempaga Hulu district (Tumbang Koling), Kotawaringin Timur Regency, Center Kalimantan Province. Based on the results of field observation and review of existing maps show that areas of High Conservation Value (HCVA) planned in the area of Oil Palm Plantations in the Area of PT NKU, Central Kalimantan Province is 699.72 ha, with details as in **Table 11** and **Appendix 3**.

The identification result of HCV availability at PT NKU is detailed in the below Table 10.

Table 10.	The Identification Result of HCV Availability at PT Nabatindo Karya Utama Oil Palm
	Plantation Area

	нси	HCV AVAILABILITY
1	Area Has Important Biodiversity Level	
1.1	Area Posses or Give Supporting Function of Biodiversity for Protected Area and/or Conservation Area	Available
1.2	Critically Endangered species	Not Available
1.3	Area Has Habitat for Viable Population of Threatened, Circumscribed or Protected Species	Available
1.4	Area Has Temporary Habitat for Species or Group of Species	Available
2	Area Has Important Landscape for Naturally Ecological Dynamics	
2.1	The Area of Wide Landscape which has Capacity to Maintain the Process and Dynamics of Naturally Ecology	Not Available
2.2	The Natural Area which has Two or More Ecosystem with not Fragmented Contour (Continuously)	Not Available
2.3	Area which has Representative Population of Natural Species	Available
3	Area which has Rare or Threatened Ecosystem	Not Available
4	Area Provides Natural Environmental Services	
4.1	Important Area or Ecosystem to Provide Water and Flood Control for Community	Available

	нси	HCV AVAILABILITY
	at Downstream Area	
4.2	Important Area to Control Erosion and Sedimentation	Available
4.3	Area which Has Function as Natural Border to Avoid the Spread of Forest Fire	Available
5	Natural Area which Has Important Function to Fulfill Basic Needs of Local Community	Available
6	Area has Important Function to Identify Traditional Culture of Local Community	Available

Analysis Result of the Availability of HCV

The area of Oil Palm plantation PT NKU has 9 HCV Area with 699.06 ha in total area or it is coverage 7.52% out of the total area of Management Unit (9,300 ha). The HCV Area at the area of Oil Palm plantation PT NKU are presented at **Table 11**. The Map of HCV Areas at Oil Palm plantation PT NKU is presented at **Appendix 3**.

Number	HCV Area	HCV Attribute	Area (ha)
1	Sungai Mirah Minting	4.1.	51.21
2	Sungai Mirah Lui	4.1.	42.24
3	Sungai Mirah	4.1.	116.61
4	Anak Sungai Mirah Minting	4.1.	17.83
5	Sungai Mirah Hujan	1.1; 1.3; 1.4; 2.3; 4.1.	53.13
6	Sungai Koling	4.1.	26.89
7	Sungai Sandung	4.1.	14.42
8	Sungai Batur	4.1.	42.11
9	Areal Berhutan blok S22-29, T22-27, U23-26	1.1; 1.3; 1.4; 2.3	334.61
	Total		699.06

Table 11.	The HCV Area of PT Karya Makmur Langgeng Oil Palm Plantation
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Internal Responsibility

Formal signing off by assessors and company

This document is the summary of assessment result on High Conservation Value (HCV) in PT Nabatindo Karya Utama Kotawaringin Timur Regency Center Kalimantan Province and has been approved by the Management of PT Nabatindo Karya Utama.

Sonokeling Akreditasi Nusantara

Kresno Dwi Santosa Team Leader HCV & SIA Dated : 7 January 2014

Management PT Nabatindo Karya Utama,

<u>Mukhlis Bentara</u> General Manager Dated : 7 January 2014

Statement of acceptance of responsibility for assessment

Assessment result document on High Conservation Value (HCV) of PT Nabatindo Karya Utama by Sonokeling Akreditasi Nusantara (SAN), will be applied as one of the guidelines in managing Oil Palm plantation in PT Nabatindo Karya Utama

> Management PT Nabatindo Karya Utama,

<u>Mukhlis Bentara</u> General Manager Dated : 7 January 2014

Appendix 1List of respondents and/or informal Focus Group Discussion (FGD) participants
on site during the implementation process of social impact

llarit Teorg	GAFTAR HAGIR FOCUS SOCIAL IMPACT ASSESSMENT P Tanggal Tanggal	T NABATINDO KARYA U	TANKA	Harra T Temps	SOCIAL IMPACT ASSESSES anggal Tanggal		TANA
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Appendix 1 List of respondents Public consultation HCV PT Nabatindo Karya Utama

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Appendix 2 List of prevailing applicable regulations and some supporting guidelines which used as references in the identification process of HCV and SIA study.

No	List / Type of Reference	Details			
1.	Status of vulnerability according to the World Conservation Union (IUCN), 2009	CR : Critically Endagerd EN : Endangered VU : Vulnerable NT : Near threatened			
2.	Status in terms of trade of world's wild fauna and flora (CITES), 2009	 App. I : list of all plants species and animals which are prohibited to be internationally traded by any means. App. II : list of species that trading required rules to diminish the threats of extinction. 			
	RI State Legislation (Acts):				
	1931 Dierenbeschermings Ordinance (Wild Animals Protection Ordinance) / 1931	Wildlife protection			
	1970 Decree of Minister of Agriculture, No. 421/Kpts/Um/8/1970	Wildlife protection			
	1973 Decree of Minister of Agriculture, no 66/Kpts / Um / 2 / 1973	Wildlife protection			
3.	1977 Decree of Minister of Agriculture, No. 90/Kpts/Um/2/1977	Wildlife protection			
	1978 Decree of Minister of Agriculture, No. 327 / Kpts / Um/5/1978	Wildlife protection			
	1979 Decree of Minister of Agriculture No. 247 / Kpts/Um/4/1979	Wildlife protection			
	1980 Decree of Minister of Agriculture, No. 716 / Kpts/Um/10/1980	Wildlife protection			
	1999 Government Regulation No. 7 of 1999	Wildlife protection			
	Government Regulation, PU 63/1993 PU	Determination width of the river riparian			
4.	Map of TGHK (Forest Land Use Agreement) and government's official documents concerning the appointment status of forest areas.	To determine the status of an area whether or not in the protected areas.			



Appendix 3. HCV Map PT NKU over lay with Measurment Map (nucleus) and Plasma (9,300 Ha)



Appendix 4. Overlay map of HCV area and planting plan PT Nabatindo Karya Utama